



# STRENGTH REIMAGINED

CarbonWrap®



## COMBINED STRENGTH FOR GREATER SERVICE

DowAksa was formed in 2012, combining the strengths of The Dow Chemical Company, the world leader in epoxy chemistry and resins, and the capabilities of Aksa, the number one producer of acrylic fibers.

The 50:50 joint venture offers high-quality, reliably supplied, competitively priced carbon fiber for industrial use, focused on the transportation, energy, defense and infrastructure markets.

As a fully integrated solution provider, DowAksa has both the capacity and commitment to reliably meet the unique demands of carbon fiber customers worldwide.



## CARBONWRAP® SYSTEMS: UPGRADE YOUR STRUCTURES FOR LESS

CarbonWrap® technology is a cost-effective and innovative solution for restoring the world's infrastructure. It doesn't just repair degraded structures; it actually makes them stronger than new. It makes buildings safer, pipelines last longer, and roads and bridges stronger. It can also protect against explosions and mitigate the harmful effects of seismic forces.

Unlike traditional retrofit or reconstruction techniques that require demolition and reconstruction of part or all of failing structures, CarbonWrap® goes right over the existing substrate. This minimizes disruption during repair and saves significantly on installation time and costs. Applied in the form of a flexible fabric during installation, it is then saturated with a resin matrix, allowing it to harden to a strong, unyielding material with a strength-to-weight ratio that exceeds fifty times that of steel.

### Advantages include:

- High strength with low weight
- Minimal change to structure's shape, weight or appearance
- Corrosion resistance
- Thermal compatibility
- Flexible wrap conforms to any shape
- Excellent fatigue behavior
- Faster repair than alternative methods
- Welding and heavy equipment not needed
- Minimal disruption and noise during preparation or installation
- Low total cost



### DowAksa Worldwide *Serving the World's Carbon Fiber Needs*

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# QUALITY AND

# SUSTAINABILITY

At DowAksa, we work to ensure complete customer satisfaction, a mindset that is adopted by all our employees.

We are committed to safety and sustainable development across all our operations and use technologies that are the most appropriate and most protective possible to people or the environment.

Quality. Reliability. Strength. Lightweight. Safety. Innovation. Quality. Energy efficient. Reduced emissions. Safety. Durable. Energy efficient. Reduced emissions. Reliability. Strength. Lightweight. Durable. Innovation. Energy efficient.

Product Code	Description	ASTM D3039							ASTM E1640		Certification
		TS		TM		Strain	Thickness		Glass Transition		
		ksi	MPa	ksi	MPa	%	inch	mm	°F	°C	
CFU10T	Carbon Fabric Composite System (CarbonBond™ 300-HT Saturant Epoxy Resin System and CFU10T Carbon Fabric); Light Weight Unidirectional 10 oz/yd <sup>2</sup> (340 g/m <sup>2</sup> ); Hand Lay Up and Wet Lay Up	203	1400	13400	92400	1.5	0.021	0.51	210	99	<ul style="list-style-type: none"> <li>• ICC- ES</li> <li>• NSF 61 Drinking Water</li> <li>• ASTM E84</li> <li>• ASTM E119</li> <li>• ASTM E108</li> </ul>
CFU20T	Carbon Fabric Composite System; (CarbonBond™ 300-HT Saturant Epoxy Resin System and CFU20T Carbon Fabric); Medium Weight Unidirectional 20 oz/yd <sup>2</sup> (680 g/m <sup>2</sup> ); Wet Lay Up	217	1496	16200	111695	1.5	0.035	0.89	210	99	<ul style="list-style-type: none"> <li>• ICC-ES</li> <li>• ASME PCC-2/ ISO 24817</li> <li>• NSF 61 Drinking Water</li> <li>• ASTM E84</li> <li>• ASTM E108</li> </ul>
CFU40T	Carbon Fabric Composite System; (CarbonBond™ 300-HT Saturant Epoxy Resin System and CFU40T Carbon Fabric); Heavy Weight Unidirectional 40 oz/yd <sup>2</sup> (1360 g/m <sup>2</sup> ); Wet Lay Up	166	1145	16660	114866	1.07	0.073	1.85	210	99	<ul style="list-style-type: none"> <li>• ASME PCC-2/ ISO 24817</li> <li>• NSF 61 Drinking Water</li> <li>• ASTM E84</li> <li>• ASTM E108</li> </ul>
CFB10T	Carbon Fabric Composite System; (CarbonBond™ 300-HT Saturant Epoxy Resin System and CFB10T Carbon Fabric); Light Weight Bidirectional 10 oz/yd <sup>2</sup> (340 g/m <sup>2</sup> ); Hand Lay Up and Wet Lay Up	86	592	5900	40680	1.7	0.024	0.61	210	99	<ul style="list-style-type: none"> <li>• NSF 61 Drinking Water</li> <li>• ASTM E84</li> <li>• ASTM E108</li> </ul>
CFB20T	Carbon Fabric Composite System; (CarbonBond™ 300-HT Saturant Epoxy Resin System and CFB20T Carbon Fabric); Medium Weight Bidirectional 20 oz/yd <sup>2</sup> (680 g/m <sup>2</sup> ); Wet Lay Up	102	704	4900	33785	2	0.032	0.81	210	99	<ul style="list-style-type: none"> <li>• NSF 61 Drinking Water</li> <li>• ASTM E84</li> <li>• ASTM E108</li> </ul>

## DOWAKSA Infrastructure Special Products

Product	Description
POLYCON™ 500 Polymer Concrete System	Unique reinforced concrete system with high resistivity to aggressive chemical attacks, particularly in acidic environments
UnderWater Composite System	Fast set up and cure in the presence of water (high humidity situation)
Fire Resistant Composite System	System complies with Class A Flame Spread; ASTM E84;" Standard test method for surface burning characteristics of building materials"
Heat Insulator Composite System	System complies with ASTM E119;" Standard Test Methods for Fire Tests of Building Construction and Materials"
Blast Proof Panel Composite System	Pre-cast polymer concrete panel capable of sustaining transient blast loads
Wind Proof Panel Composite System	Pre-cast polymer concrete panel capable of sustaining static blast loads
GEO FRP	Unique application of Carbon Fabrics in geotechnical engineering
Carbon Reinforced Micro Piles	Unique system for deep foundation applications
Pile Shells, Wrap	Outside structural strengthening of piles in ports and harbors
Hallow Pile Retrofit	Inside structural strengthening of piles in ports and harbors
CFRP Seismic Retrofitting Systems	Modification of existing structures to make them more resistant to seismic activity, ground motion or soil failure due to earthquakes
CFRP Structural Strengthening Systems	Upgrading the structural system of an existing building to improve performance under existing loads or to increase the strength of structural components to carry additional loads